

Sub 21
5 1. Method of point-to-point communication between a sender (SRV(m)) and a receiver (SRV(m)) by means of messages with flexible message formats (ILMF), the messages each comprising:

- a header at least comprising message definition references (MSG ID, MSG CLASS, MSG VERSION, MSG CREATOR), a sender identifier (SENDER ID) and a destination address (DESTINATION ADDRESS);

- message content including at least:

10 ♦ number of fields (FIELD COUNT) and content of any field (FIELD(1), ...);

characterized in that the message content also comprises:

- ♦ number of objects (OBJECT COUNT) and content of any object (OBJECT(1), ...), the objects being referred to by one or more of the fields;
- ♦ number of field mappings and content of any field mapping, any field mapping being usable by predetermined fields;
- ♦ number of actions and content of any actions, any action being at least usable by predetermined fields;

and in that the method further includes the step of:

- interpreting and processing any of said messages using a database (ILMDB) storing a message definition table (msgdef), a field definition table (flddef), mapping instructions (fldmap) and message action lists (fldact, msgpre, msgpost).

25 2. Method according to claim 1, wherein said message definition references comprise a message identifier (MSG ID) for identifying any of the messages.

3. Method according to claim 1 or 2, wherein said message definition references comprise a message class identifier (MSG CLASS) for identifying a message class for any of the messages, like mail, business message, orders or shipping.

30 4. Method according to any of the preceding claims, wherein said message definition references comprise a message version identifier (MSG VERSION) for identifying a version number of any of the messages.

5. Method according to any of the preceding claims, wherein said message definition references comprise a message creator identifier (MSG CREATOR) for identifying a creator of any of the messages.
- 5 6. Method according to any of the preceding claims, wherein said header comprises a reference to a type of encryption (ENCRYPTION TYPE) applied.
7. Method according to any of the preceding claims, wherein said header comprises a reference to a type of compression (COMPRESSION TYPE) applied.
- 10 8. Method according to any of the preceding claims, wherein said header comprises a reference to an application (APPLICATION NAME) for indicating whether or not any of the messages is member of a series of messages forming together said application.
- 15 9. Method according to any of the preceding claims, wherein any of said messages comprises a digital signature.
- 10 10. A communication apparatus comprising processing means (ILMS) and a database (ILMDB), arranged for point-to-point communication with another communication apparatus (SRV(m)) by means of messages with flexible message formats (ILMF), said messages comprising:
- 20 • a header at least comprising message definition references (MSG ID, MSG CLASS, MSG VERSION, MSG CREATOR), a sender identifier (SENDER ID) and a destination address (DESTINATION ADDRESS);
- 25 • message content including at least:
- ◆ number of fields (FIELD COUNT) and content of any field (FIELD(1), ...);
- characterized in that the message content also comprises:
- ◆ number of objects (OBJECT COUNT) and content of any object (OBJECT(1), ...), the objects being referred to by one or more of the fields;
 - ◆ number of field mappings and content of any field mapping, any field mapping being usable by predetermined fields;
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- ◆ number of actions and content of any actions, any action being at least usable by predetermined fields;

and in that said database (ILMDB) stores a predetermined message definition table (msgdef), a field definition table (flddef), mapping instructions (fldmap) and message
5 action lists (fldact, msgpre, msgpost);

and in that said processing means (ILMS) is arranged to interpret and process messages while consulting said predetermined message definition table (msgdef), mapping instructions (fldmap) and message action lists (fldact, msgpre, msgpost) stored in said database (ILMDB) using said message definition references as references
10 to said predetermined message definitions.

11. A communication apparatus according to claim 10, wherein said predetermined message definition table (msgdef) comprises a message identifier (msgid) for identifying any of the messages.
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12. A communication apparatus according to claim 10 or 11, wherein said predetermined message definition table (msgdef) comprises a message class identifier (msgclass) for identifying a message class for any of the messages, like mail, business message, orders or shipping.
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13. A communication apparatus according to any of the claims 10 through 12, wherein said predetermined message definition table (msgdef) comprises a message version identifier (msgver) for identifying a version number of any of the messages.

25 14. A communication apparatus according to any of the claims 10 through 13, wherein said predetermined message definition table (msgdef) comprises a message creator identifier (creatid) for identifying a creator of any of the messages.

30 15. A communication apparatus according to any of the claims 10 through 14, wherein said predetermined message definition table (msgdef) comprises a reference to a type of encryption (encrtype) applied.

16. A communication apparatus according to any of the claims 10 through 15, wherein said predetermined message definition table (msgdef) comprises a reference to a digital signature type (sigtype) applied.
- 5 17. A communication apparatus according to any of the claims 10 through 16, wherein said predetermined message definition table (msgdef) comprises a message system identifier (msysid) for use as a reference to further tables in said database (ILMDB).
- 10 18. A communication apparatus according to claim 17, wherein said further tables comprise a field definition table (flddef) for holding primary definitions for any field of said messages.
- 15 19. A communication apparatus according to any of the claims 17 or 18, wherein said further tables comprise a field mapping table (fldmap) comprising said mapping instructions usable by predetermined fields, e.g. for mappings to hyper text markup language fields, database fields, flat file fields and other message fields, said database fields and flat file fields being stored in a customer database (CDB).
- 20 20. A communication apparatus according to any of the claims 17 through 19, wherein said further tables comprise a field action table (fldact) comprising said message action lists usable by predetermined fields.
- 25 21. A communication apparatus according to any of the claims 17 through 20, wherein said further tables comprise a message pre-processing table (msgpre) comprising a list of actions to be executed as pre-processing for a message either received or to be send and a message post-processing (msgpost) comprising a list of action to be executed as post-processing for a message received.
- 30 22. A communication apparatus according to claim 21 when dependent upon claim 20, wherein said field action table (fldact), said message pre-processing table (msgpre) and said message post-processing table (msgpost) comprise references to types of action selected from the following group of actions: database type of actions and

logical type of actions including mathematical calculations, assignments, logical operations and conditional operations, and commands.

23. A communication apparatus according to any of the claims 10 through 22, wherein said message definition table (msgdef) comprises an application field (appmain) for indicating whether a message received is a first message of an application and an application name field (appname) for referring to a name of said application, in order to define the application as a collection of data messages and their associated actions.

24. A communication apparatus according to claim 23, wherein said application is a distributed application distributed over a plurality of communication apparatuses.

25. A communication apparatus according to any of the claims 10 through 24, wherein said apparatus is arranged for requesting a new message definition from a sender if a message received refers to a message definition not present in its database (ILMDB), and receiving said new message definition from said sender and storing it in said message definition table (msgdef) in said database (ILMDB).

26. A communication apparatus according to any of the claims 10 through 24 arranged to interpret a previously unseen message and to create a new message definition entry in said database (ILMDB).

27. A communication apparatus according to any of the claims 10 through 26, wherein said processing means (ILMS) are arranged to either merge a message received with a designated HTML file or if the designated HTML file is not found by the processing means (ILMS), to create a default dynamic HTML file.

28. A system comprising a communication apparatus (SRV(m)) according to any of the claims 10 through 26 and a terminal (ILMC) connected to said communication apparatus, said terminal comprising a terminal processor (1), a display unit (6) and input means (12, 13) for inputting data by a user, said communication apparatus being arranged for passing a message received to said terminal if said terminal is indicated in

the message to be the destination address, and said terminal processor (1) is arranged to either merge the message with a designated HTML file or if the designated HTML file is not found by the terminal processor (1), to create a default dynamic HTML.